

|  |  |   |  |  |  |  |  |
|--|--|---|--|--|--|--|--|
| <b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>  |  |   |  | 1. CONTRACT ID CODE<br><b>J</b>  |  | PAGE OF PAGES<br><b>1   2</b>              |  |
| 2. AMENDMENT/MODIFICATION NO.<br><b>0004</b>   |  | 3. EFFECTIVE DATE<br><b>10-Jun-2003</b> |  | 4. REQUISITION/PURCHASE REQ. NO.<br><b>W68MD9-3028-6345</b>                                      |  | 5. PROJECT NO.(If applicable)              |  |
| 6. ISSUED BY<br>USA ENGINEER DISTRICT, SEATTLE<br>ATTN: CENWS-CT<br>P.O. BOX 3755<br>SEATTLE WA 98124-3755   |  | CODE<br><b>DACA67</b>                   |  | 7. ADMINISTERED BY (If other than item 6)<br><br><b>See Item 6</b>                               |  | CODE                                       |  |
| 8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)  |  |   |  | <input checked="" type="checkbox"/> 9A. AMENDMENT OF SOLICITATION NO.<br><b>DACA67-03-R-0213</b> |  |  |  |
|  |  |   |  | <input checked="" type="checkbox"/> 9B. DATED (SEE ITEM 11)<br><b>13-May-2003</b>                |  |  |  |
|  |  |   |  | 10A. MOD. OF CONTRACT/ORDER NO.  |  |  |  |
|  |  |   |  | 10B. DATED (SEE ITEM 13)   |  |  |  |
| CODE   |  | FACILITY CODE                           |  |  |  |  |  |
| <b>11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS</b>   |  |   |  |  |  |  |  |
| <input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended.<br>Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods:<br>(a) By completing Items 8 and 15, and returning <u>0</u> copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted;<br>or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE<br>RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN<br>REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter,<br>provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified. |  |   |  |  |  |  |  |
| 12. ACCOUNTING AND APPROPRIATION DATA (If required)  |  |   |  |  |  |  |  |
| <b>13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS.</b><br><b>IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.</b>  |  |   |  |  |  |  |  |
| A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.   |  |   |  |  |  |  |  |
| B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).  |  |   |  |  |  |  |  |
| C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:   |  |   |  |  |  |  |  |
| D. OTHER (Specify type of modification and authority)  |  |   |  |  |  |  |  |
| E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.  |  |   |  |  |  |  |  |
| 14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)<br><b>FAMILY HOUSING, PHASE 3 MALMSTROM AFB, MONTANA</b>   |  |   |  |  |  |  |  |
| Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.   |  |   |  |  |  |  |  |
| 15A. NAME AND TITLE OF SIGNER (Type or print)  |  |   |  | 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)                                       |  |  |  |
|  |  |   |  | TEL: _____ EMAIL: _____  |  |  |  |
| 15B. CONTRACTOR/OFFEROR<br><br>_____<br>(Signature of person authorized to sign)   |  | 15C. DATE SIGNED                        |  | 16B. UNITED STATES OF AMERICA<br><br>BY _____<br>(Signature of Contracting Officer)              |  | 16C. DATE SIGNED<br><br><b>10-Jun-2003</b> |  |

A. This amendment is issued to provide the following information:

1. Revise the Bid Schedule.
2. Revise Section 00800, Table Of Contents Special Clauses
3. Revise Section 01270, Measurement And Payment
4. Revise Section 02300, Earthwork
5. Revise Section 16271, Pad-Mounted Transformers
6. Revisions to Drawings, E-003 Electrical Site Plan, E-301 Electrical Details and E-303 Electrical One-Line Diagram

B. The revised attached pages supersede pages of the same number and should be inserted in numerical sequence. All changes are generally identified, for your convenience, either by strikeout for deletions, and underlining of text for additions or single dark line in the margin. All portions of the revised or new pages shall apply to this contract whether or not changes have been indicated.

**C. THE PROPOSAL DUE DATE AND TIME REMAINS UNCHANGED, 2:00 PM (LOCAL TIME), June 18, 2003.**

D. NOTICE TO OFFERORS: Offerors must acknowledge receipt of this amendment by number and date on Standard Form 1442, BACK, Block 19, or by telegram.

E. All Technical Amendments are available for download this date on the Army Corps of Engineers website at <http://www.nws.usace.army.mil/ct/>.

Enclosures  
Rev. Bid Schedule  
Rev. 00800  
Rev. 01270  
Rev. 02300  
Rev. 16271  
(DRAWINGS)  
Rev. E-003  
Rev. E-301  
Rev. E-303

**BID SCHEDULE**REPLACE CAPEHART FAMILY HOUSING, TITAN PHASE 3

| <u>Item No.</u>       | <u>Description of Item</u>   | <u>Quantity</u> | <u>Unit</u> | <u>Unit Price</u> | <u>Amount</u> |
|-----------------------|--|-----------------|-------------|-------------------|---------------|
| <u>BASE ITEMS</u>     |  |                 |             |                   |               |
| 0001                  | Demolish Buildings Nos. 4009, 4010, 4011, 4012, 4013, 4014, 4015, 4016, 4028, 4029, 4030 and 4031 in the Titan Housing Area  | 1               | JOB         | L.S.              | \$_____       |
| 0002                  | All Work for Construction of Buildings Nos. 14009, 14011, 14013, 14015, 14028, 14029, 14030 and 14031 (16 Units) in the Titan Housing Area within a line 5 feet outside of the Building Exterior Walls   | 1               | JOB         | L.S.              | \$_____       |
| 0003                  | Provide Titan Housing Area Site Work and Utilities for Items 0002 <u>and Utilities for Items</u> 0012, 0013, 0014 and 0015 from a line 5 feet outside of the Building Exterior Walls, except for Items 0004 and 0016 through 0023 (See Note 3) | 1               | JOB         | L.S.              | \$_____       |
| 0004                  | Not Used   |                 |             |                   |               |
| 0005                  | All Work for As-Built Drawings as Specified in Section 01702 from Preparation to Final Approval for Base Items and any Optional Items Exercised  | 1               | JOB         | L.S.              | \$15,000      |
| 0006                  | All Work for O&M Manuals as Specified in Section 01701 from Preparation to Final Approval for Base Items and any Optional Items Exercised  | 1               | JOB         | L.S.              | \$10,000      |
| 0007                  | All Work for Form 1354 Checklist and Equipment in Place List as Specified in Sections 01704 and 01705 from Preparation to Final Approval for Base Items and any Optional Items Exercised   | 1               | JOB         | L.S.              | \$ 6,000      |
| TOTAL BASE ITEMS      |  |                 |             |                   | \$_____       |
| <u>OPTIONAL ITEMS</u> |  |                 |             |                   |               |
| 0008                  | Backfill (with satisfactory material), Compact, Finish and Fine Grade, Topsoil and Seeding (to cover excavation from demolition of Building No. 4016), as Indicated  | 1               | JOB         | L.S.              | \$_____       |

| Item No. | Description of Item  | Quantity | Unit | Unit Price | Amount  |
|----------|--|----------|------|------------|---------|
| 0009     | Backfill (with satisfactory material), Compact, Finish and Fine Grade, Topsoil and Seeding (to cover excavation from demolition of Building No. 4015), as indicated  | 1        | JOB  | L.S.       | \$_____ |
| 0010     | Backfill (with satisfactory material), Compact, Finish and Fine Grade, Topsoil and Seeding (to cover excavation from demolition of Building No. 4013, as indicated   | 1        | JOB  | L.S.       | \$_____ |
| 0011     | Backfill (with satisfactory material), Compact, Finish and Fine Grade, Topsoil and Seeding (to cover excavation from demolition of Building No. 4012), as indicated  | 1        | JOB  | L.S.       | \$_____ |
| 0012     | All Work for Construction of Building 14010 (2 Units) in the Titan Housing Area within a line 5 feet outside of the Building Exterior Walls <u>and Sitework to include Installation of Trees and Shrubs as shown on the Landscape Plans; Paving, Mowstrips, Driveways and Walks as indicated, and Duct Bank Work from the Building to the Transformer as shown on Electrical Drawing Plate E-003</u> (If this item is exercised, Optional Item 0008 WILL NOT be exercised) | 1        | JOB  | L.S.       | \$_____ |
| 0013     | All Work for Construction of Building 14012 (2 Units) in the Titan Housing Area within a line 5 feet outside of the Building Exterior Walls <u>and Sitework to include Installation of Trees and Shrubs as shown on the Landscape Plans; Paving, Mowstrips, Driveways and Walks as indicated, and Duct Bank Work from the Building to the Transformer as shown on Electrical Drawing Plate E-003</u> (If this item is exercised, Optional Item 0009 WILL NOT be exercised) | 1        | JOB  | L.S.       | \$_____ |

| Item No. | Description of Item  | Quantity | Unit | Unit Price | Amount  |
|----------|--|----------|------|------------|---------|
| 0014     | All Work for Construction of Building 14014 (2 Units) in the Titan Housing Area within a line 5 feet outside of the Building Exterior Walls <u>and Sitework to include Installation of Trees and Shrubs as shown on the Landscape Plans; Paving, Mowstrips, Driveways and Walks as indicated, and Duct Bank Work from the Building to the Transformer as shown on Electrical Drawing plate E-003</u> (If this item is exercised, Optional Item 0010 WILL NOT be exercised) | 1        | JOB  | L.S.       | \$_____ |
| 0015     | All Work for Construction of Building 14016 (2 Units) in the Titan Housing Area within a line 5 feet outside of the Building Exterior Walls <u>and Sitework to include Installation of Trees and Shrubs as shown on the Landscape Plans; Paving, Mowstrips, Driveways and Walks as indicated, and Duct Bank Work from the Building to the Transformer as shown on Electrical Drawing Plate E-003</u> (If this item is exercised, Optional Item 0011 WILL NOT be exercised) | 1        | JOB  | L.S.       | \$_____ |
| 0016     | Install Fencing for the Titan Housing Area Buildings (16 Units) (constructed in Item 0002) as shown on the drawings  | 1        | JOB  | L.S.       | \$_____ |
| 0017     | Install Fencing for the Titan Housing Area Building (2 Units) (constructed in Item 0012) as shown on the drawings  | 1        | JOB  | L.S.       | \$_____ |
| 0018     | Install Fencing for the Titan Housing Area Building (2 Units) (constructed in Item 0013) as shown on the drawings  | 1        | JOB  | L.S.       | \$_____ |
| 0019     | Install Fencing for the Titan Housing Area Building (2Units) (constructed in Item 0014) as shown on the drawings   | 1        | JOB  | L.S.       | \$_____ |
| 0020     | Install Fencing for the Titan Housing Area Building (2 Units) (constructed in Item 0015) as shown on the drawings  | 1        | JOB  | L.S.       | \$_____ |
| 0021     | Install Underground Sprinkler System in Common Areas for Item 0003 as shown on the Landscape Plans   | 1        | JOB  | L.S.       | \$_____ |
| 0022     | Install Trees in the Common Areas for Item 0003 as shown on the Landscape Plans  | 1        | JOB  | L.S.       | \$_____ |
| 0023     | Additional Cost to Place 2" Asphalt on Pathway in lieu of 2" Aggregate Surface Course (placed under Base Item 0003)  | 1        | JOB  | L.S.       | \$_____ |

| <u>Item No.</u>               | <u>Description of Item</u>  | <u>Quantity</u> | <u>Unit</u> | <u>Unit Price</u> | <u>Amount</u> |
|-------------------------------|---|-----------------|-------------|-------------------|---------------|
| 0024                          | Additional Cost to Provide Solid Surface Nonporous Countertops in Lieu of Laminated Plastic Countertops and Splash in the Kitchens of the Buildings (16 Units) Constructed under Base Item 0002             | 1               | JOB         | L.S.              | \$_____       |
| 0025                          | Additional Cost to Provide Solid Surface Nonporous Countertops in lieu of Laminated Plastic Countertops and Splash at Cooktops in the Kitchens of the Building (2 Units) Constructed under Option Item 0012 | 1               | JOB         | L.S.              | \$_____       |
| 0026                          | Additional Cost to Provide Solid Surface Nonporous Countertops in lieu of Laminated Plastic Countertops and Splash at Cooktops in the Kitchens of the Building (2 Units) Constructed under Option Item 0013 | 1               | JOB         | L.S.              | \$_____       |
| 0027                          | Additional Cost to Provide Solid Surface Nonporous Countertops in lieu of Laminated Plastic Countertops and Splash at Cooktops in the Kitchens of the Building (2 Units) Constructed under Option Item 0014 | 1               | JOB         | L.S.              | \$_____       |
| 0028                          | Additional Cost to Provide Solid Surface Nonporous Countertops in lieu of Laminated Plastic Countertops and Splash at Cooktops in the Kitchens of the Building (2 Units) Constructed under Option Item 0015 | 1               | JOB         | L.S.              | \$_____       |
| TOTAL OPTIONAL ITEMS          |   |                 |             |                   | \$_____       |
| TOTAL BASE AND OPTIONAL ITEMS |   |                 |             |                   | \$_____       |

~~See Notes on the following page~~

NOTES:

1. The dollar amounts established in Items No. 0005, 0006 and 0007 shall not be revised by bidders.
2. Reference Section 01270 MEASUREMENT AND PAYMENT for additional descriptive information regarding Schedule Items.
3. Transformer and sectionalized enclosures with fencing, pathway and light standards, concrete handicap aprons with curb cuts, painted crosswalks and signage and two bollards at each end of the pathway, and backfill material are included in Item 0003. .
4. Option 0017 will not be awarded unless Option Item 0012 is awarded.
5. Option 0018 will not be awarded unless Option Item 0013 is awarded.
6. Option 0019 will not be awarded unless Option Item 0014 is awarded.

03019/II

Replace Capehart Family Housing, Titan Phase 3, Malmstrom AFB, Mt.

7. Option 0020 will not be awarded unless Option Item 0015 is awarded.

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## SECTION 00800

### SPECIAL CLAUSES

#### SC-1. COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984) (FAR 52.211-10).

The Contractor shall be required to (a) commence work under this Contract within 10 calendar days after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than 460 calendar days after date of receipt by Contractor of notice to proceed. The time stated for completion shall include final cleanup of the premises.

##### SC-1.1 OPTION FOR INCREASED QUANTITY

a. The Government may increase the quantity of work awarded by exercising any or all of the Optional Items 0008 through 0028 within 120 days of the receipt by the Contractor of the notice to proceed. The notice to proceed on work Items added by exercise of the options will be given upon execution of consent of surety.

b. The parties hereto further agree that any options herein shall be considered to have been exercised at the time the Government deposits written notification to the Contractor in the mails.

c. The time allowed for completion of the optional item awarded under this contract will be the same as that for the base items, and will be measured from the date of receipt of the notice to proceed for the base items.

##### SC-1.2 EXCEPTION TO COMPLETION PERIOD

In case the Contracting Officer determines that completion of seeding, sodding, and planting, and establishment of same is not feasible within the completion period(s) stated above, the Contractor shall accomplish such work in the first planting period following the contract completion period and shall complete such work as specified, unless other planting periods are directed or approved by the Contracting Officer.

#### SC-2. LIQUIDATED DAMAGES - CONSTRUCTION (APR 1984) (FAR 52.211-12)

(a) If the Contractor fails to complete the work within the time specified in the Contract, or any extension, the Contractor shall pay to the Government as liquidated damages, the sum of \$960.00 for each day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, the resulting damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess cost of repurchase under the Termination clause in the CONTRACT CLAUSES.

(c) Exception to Liquidated Damage: In case the Contracting Officer determines that completion of work stated above in paragraph Exception to Completion Period is not feasible during the completion period stated in SC-1, such work will be exempted from liquidated damages.

SC-3. DELETED.

SC-4. VARIATIONS IN ESTIMATED QUANTITIES - SUBDIVIDED ITEMS (MAR 1995)  
(EFARS 52.211-5001): This variation in estimated quantities clause is applicable only to Item No. 0004.

(a) Variation from the estimated quantity in the actual work performed under any second or subsequent sub-item or elimination of all work under such a second or subsequent sub-item will not be the basis for an adjustment in contract unit price.

(b) Where the actual quantity of work performed for Items No. 0004 is less than 85 % of the quantity of the first sub-item listed under such item, the Contractor will be paid at the contract unit price for that sub-item for the actual quantity of work performed and, in addition, an equitable adjustment shall be made in accordance with the clause FAR 52.211-18, Variation in Estimated Quantities.

(c) If the actual quantity of work performed under Items No. 0004 exceeds 115 percent or is less than 85 percent of the total estimated quantity of the sub-item under that item and/or if the quantity of the work performed under the second sub-item or any subsequent sub-item under Items No. 0004 exceeds 115 % or is less than 85 % of the estimated quantity of any such sub-item, and if such variation causes an increase or a decrease in the time required for performance of this contract the contract completion time will be adjusted in accordance with the clause FAR 52.211-18, Variation in Estimated Quantities.

SC-5. INSURANCE - WORK ON A GOVERNMENT INSTALLATION (SEP 1989) (FAR 52.228-5)

(a) The Contractor shall, at its own expense, provide and maintain during the entire performance period of this Contract at least the kinds and minimum amounts of insurance required in the Insurance Liability Schedule or elsewhere in the Contract.

(b) Before commencing work under this Contract, the Contractor shall certify to the Contracting Officer in writing that the required insurance has been obtained. The policies evidencing required insurance shall contain an endorsement to the effect that any cancellation or any material change adversely affecting the Government's interest shall not be effective:

(1) for such period as the laws of the State in which this Contract is to be performed prescribe; or

(2) until 30 days after the insurer or the Contractor gives written notice to the Contracting Officer, whichever period is longer.

(c) The Contractor shall insert the substance of this clause, including this paragraph (c), in subcontracts under this Contract that require work on a Government installation and shall require subcontractors to provide and maintain the insurance required in the Schedule or elsewhere in the Contract. The Contractor shall maintain a copy of all subcontractors' proofs of required insurance, and shall make copies available to the Contracting Officer upon request.

#### SC-5.1 REQUIRED INSURANCE IN ACCORDANCE WITH FAR 28.307-2:

(1) Workers' compensation and employer's liability. Contractors are required to comply with applicable Federal and State workers' compensation and occupational disease statutes. If occupational diseases are not compensable under those statutes, they shall be covered under the employer's liability section of the insurance policy, except when Contract operations are so commingled with a Contractor's commercial operation that it would not be practical to require this coverage. Employer's liability coverage of at least \$100,000 shall be required, except in states with exclusive or monopolistic funds that do not permit workers' compensation to be written by private carriers.

(2) General Liability.

(a) The Contracting Officer shall require bodily injury liability insurance coverage written on the comprehensive form of policy of at least \$500,000 per occurrence.

(b) Property damage liability insurance shall be required only in special circumstances as determined by the agency.

(3) Automobile liability. The Contracting Officer shall require automobile liability insurance written on the comprehensive form of policy. The policy shall provide for bodily injury and property damage liability covering the operation of all automobiles used in connection with performing the Contract. Policies covering automobiles operated in the United States shall provide coverage of at least \$200,000 per person and \$500,000 per occurrence for bodily injury and \$20,000 per occurrence for property damage. The amount of liability coverage on other policies shall be commensurate with any legal requirements of the locality and sufficient to meet normal and customary claims.

(4) Aircraft public and passenger liability. When aircraft are used in connection with performing the Contract, the Contracting Officer shall require aircraft public and passenger liability insurance. Coverage shall be at least \$200,000 per person and \$500,000 per occurrence for bodily injury, other than passenger liability, and \$200,000 per occurrence for property damage. Coverage for passenger liability bodily injury shall be at least \$200,000 multiplied by the number of seats or passengers, whichever is greater.

(5) Environmental Liability If this contract includes the transport, treatment, storage, or disposal of hazardous material waste the following coverage is required.

The Contractor shall ensure the transporter and disposal facility have liability insurance in effect for claims arising out of the death or bodily injury and property damage from hazardous material/waste transport, treatment, storage and disposal, including vehicle liability and legal defense costs in the amount of \$1,000,000.00 as evidenced by a certificate of insurance for General, Automobile, and Environmental Liability Coverage. Proof of this insurance shall be provided to the Contracting Officer.

#### SC-6. DELETED

SC-7. PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984) (FAR 52.236-1):  
The Contractor shall perform on the site, and with its own organization, work equivalent to at

least fifteen percent (15%) of the total amount of work to be performed under the Contract. The percentage may be reduced by a supplemental agreement to this Contract if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the Government.

SC-8. PHYSICAL DATA (APR 1984) (FAR 52.236-4): Data and information furnished or referred to below is for the Contractor's information. The Government will not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

(a) Physical Conditions: The indications of physical conditions on the drawings and in the specifications are the result of site investigations by test holes shown on the drawings.

(b) Weather Conditions: Each bidder shall be satisfied before submitting his bid as to the hazards likely to arise from weather conditions. Complete weather records and reports may be obtained from any National Weather Service Office.

(c) Transportation Facilities: Each bidder, before submitting his bid, shall make an investigation of the conditions of existing public and private roads and of clearances, restrictions, bridge load limits, and other limitations affecting transportation and ingress and egress at the jobsite. The unavailability of transportation facilities or limitations thereon shall not become a basis for claims for damages or extension of time for completion of the work.

#### SC-9. DELETED

SC-10. LAYOUT OF WORK (APR 1984) (FAR 52.236-17): The Contractor shall lay out its work from Government-established base lines and bench marks indicated on the drawings, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Contracting Officer. The Contractor shall also be responsible for maintaining and preserving all stakes and other marks established by the Contracting Officer until authorized to remove them. If such marks are destroyed by the Contractor or through its negligence before their removal is authorized, the Contracting Officer may replace them and deduct the expense of the replacement from any amounts due, or to become due, to the Contractor.

#### SC-11. THROUGH SC-13. DELETED.

SC-14. EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE (MAR 1995)-  
(EFARS 52.231-5000)

(a) This clause does not apply to terminations. See 52.249-5000, Basis for Settlement of Proposals and FAR Part 49.

(b) Allowable cost for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by a contractor or subcontractor at any tier shall be based on actual cost data for each piece of equipment or groups of similar serial and series for which the Government can determine both ownership and operating costs from the contractor's accounting records. When both ownership and operating costs cannot be determined for any

piece of equipment or groups of similar serial or series equipment from the contractor's accounting records, costs for that equipment shall be based upon the applicable provisions of EP 1110-1-8, Construction Equipment Ownership and Operating Expense Schedule, Region IV. Working conditions shall be considered to be average for determining equipment rates using the schedule unless specified otherwise by the Contracting Officer. For equipment not included in the schedule, rates for comparable pieces of equipment may be used or a rate may be developed using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retroactive pricing, the schedule in effect at the time the work was performed shall apply.

(c) Equipment rental costs are allowable, subject to the provisions of FAR 31.105(d)(ii) and FAR 31.205-36. Rates for equipment rented from an organization under common control, lease-purchase arrangements, and sale-leaseback arrangements, will be determined using the schedule, except that actual rates will be used for equipment leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees.

(d) When actual equipment costs are proposed and the total amount of the pricing action exceeds the small purchase threshold, the contracting officer shall request the contractor to submit either certified cost or pricing data, or partial/limited data, as appropriate. The data shall be submitted on Standard Form 1411, Contract Pricing Proposal Cover Sheet.

(e) Copies of EP1110-1-8 "Construction Equipment Ownership and Operating Expense Schedule" Volumes 1 through 12 are available in Portable Document Format (PDF) only and can be viewed or downloaded at <http://www.usace.army.mil/inet/usace-docs/eng-pamphlets/cecw.htm>. Copies of the CD-ROM (Volumes 1-12) are also available through either the Superintendent of Documents or Government bookstores. For additional information telephone 202-512-2250, or access on the Internet at [http://www.access.gpo.gov/su\\_docs](http://www.access.gpo.gov/su_docs).

#### SC-15. PAYMENT FOR MATERIALS DELIVERED OFF-SITE (MAR 1995)-(EFARS 52.232-5000)

(a) Pursuant to FAR clause 52.232-5, Payments Under Fixed Priced Construction Contracts, materials delivered to the contractor at locations other than the site of the work may be taken into consideration in making payments if included in payment estimates and if all the conditions of the General Provisions are fulfilled. Payment for items delivered to locations other than the work site will be limited to: (1) materials required by the technical provisions; or (2) materials that have been fabricated to the point where they are identifiable to an item of work required under this contract.

(b) Such payment will be made only after receipt of paid or receipted invoices or invoices with canceled check showing title to the items in the prime contractor and including the value of material and labor incorporated into the item. In addition to petroleum products, payment for materials delivered off-site is limited to the following items. Any other construction material stored offsite may be considered in determining the amount of a progress payment.

SC-16 AND SC-17. DELETED

SC-18. CONTRACT DRAWINGS AND SPECIFICATIONS (AUG 2000)(DOD FAR SUPP 252.236-7001)

(a) The Government will provide to the Contractor, without charge, one set of contract drawings and specifications, except publications incorporated into the technical provisions by reference, in electronic or paper media as chosen by the Contracting Officer.

(b) The Contractor shall--

- (1) Check all drawings furnished immediately upon receipt;
- (2) Compare all drawings and verify the figures before laying out the work;
- (3) Promptly notify the Contracting Officer of any discrepancies;
- (4) Be responsible for any errors which might have been avoided by complying with this paragraph (b); and
- (5) Reproduce and print contract drawings and specifications as needed.

(c) In general—

- (1) Large scale drawings shall govern small scale drawings; and
- (2) The Contractor shall follow figures marked on drawings in preference to scale measurements.

(d) Omissions from the drawings or specifications or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or that are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work. The Contractor shall perform such details as if fully and correctly set forth and described in the drawings and specifications.

(e) The work shall conform to the specifications and the contract drawings identified in the index of drawings attached at the end of the Special Clauses.

SC-23. RECOVERED MATERIALS: The Corps of Engineers encourages all bidders to utilize recovered materials to the maximum extent practicable. The Contractor shall comply with the provisions of the Executive Order EO 13101 within the scope of his operations. The attached APPENDIX R contains procurement guidelines for products containing recovered materials. The Contractor shall fill out RECOVERED MATERIALS DETERMINATION FORM attached at the end of APPENDIX R and submit it to the Contracting Officer.



## APPENDIX R

### PART 247 - COMPREHENSIVE PROCUREMENT GUIDELINE FOR PRODUCTS CONTAINING RECOVERED MATERIALS

40 CFR Ch. 1 (9-1-99 Edition)

#### Subpart B-Item Designations

##### § 247.10 Paper and paper products.

Paper and paper products, excluding building and construction paper grades.

##### § 247.11 Vehicular products.

- (a) Lubricating oils containing re-refined oil, including engine lubricating oils, hydraulic fluids, and gear oils, excluding marine and aviation oils.
- (b) Tires, excluding airplane tire
- (e) Reclaimed engine coolants, excluding coolants used in non-vehicular applications.

##### § 247.12 Construction products.

- (a) Building insulation product including the following items:
  - (1) Loose-fill insulation, including but not limited to cellulose fiber, mineral fibers (fiberglass and rock vermiculite, and perlite;
  - (2) Blanket and batt insulation, including but not limited to mineral fibers (fiberglass and rock wool);
  - (3) Board (sheathing, roof decking wall panel) insulation, including but not limited to structural fiberboard and laminated paperboard products perlite composite board, polyurethane, polyisocyanurate, polystyrene, phenolics, and composites; and
  - (4) Spray-in-place insulation, including but not limited to foam-in-place polyurethane and polyisocyanurate and spray-on cellulose.
- (b) Structural fiberboard and laminated paperboard products for applications other than building insulation, including building board, sheathing shingle backer, sound deadening board, roof insulating board, insulating wallboard, acoustical and non-acoustical ceiling tile, acoustical and non-acoustical lay-in panels, floor underlayments, and roof overlay (coverboard).
- (c) Cement and concrete, including concrete products such as pipe and block, containing coal fly as ground granulated blast furnace (GGBF) slag.
- (d) Carpet made of polyester fiber use in low- and medium-wear applications.
- (e) Floor tiles and patio blocks containing recovered rubber or plastic.
- (f) Shower and restroom dividers/partitions containing recovered plastic or steel.
- (g) (1) Consolidated latex paint used for covering graffiti; and
- (2) Reprocessed latex paint used for interior and exterior architectural applications such as wallboard, ceilings, and trim; gutter boards; and concrete, stucco, masonry, wood and metal surfaces.

§247.13 Transportation products.

- (a) Traffic barricades and traffic cones used in controlling or restricting vehicular traffic.
- (b) Parking stops made from concrete or containing recovered plastic or rubber.
- (c) Channelizers containing recovered plastic or rubber.
- (d) Delineators containing recovered plastic, rubber, or steel.
- (e) Flexible delineators containing recovered plastic.

§ 247.14 Park and recreation products

- (a) Playground surfaces and running tracks containing recovered rubber or plastic.
- (b) Plastic fencing containing recovered plastic for use in controlling snow or sand drifting and as a warning/safety barrier in construction or other applications.

§ 247.15 Landscaping products.

- (a) Hydraulic mulch products containing recovered paper or recovered wood used for hydroseeding and as an over-spray for straw mulch in landscaping, erosion control, and soil reclamation.
- (b) Compost made from yard trimmings, leaves, and/or grass clippings for use in landscaping, seeding of grass or other plants on roadsides and embankments, as a nutritious mulch under trees and shrubs, and in erosion control and soil reclamation.
- (c) Garden and soaker hoses containing recovered plastic or rubber.
- (d) Lawn and garden edging containing recovered plastic or rubber.

§ 247.16 Non-paper office product.

- (a) Office recycling containers and office waste receptacles.
- (b) Plastic desktop accessories.
- (c) Toner cartridges.
- (d) Binders.
- (e) Plastic trash bags.
- (f) Printer ribbons.
- (g) Plastic envelopes.

§ 247.17 Miscellaneous products.

Pallets containing recovered wood, plastic, or paperboard.

**RECOVERED MATERIALS DETERMINATION FORM***Instructions*

This form is to be completed by the procurement originator when EPA-designated items included in the Affirmative Procurement Program for Recovered Materials are being procured from outside vendors. For questions on whether the product counts as "EPA designated" or what the required recycled content is, refer to product descriptions on EPA's website at <http://www.epa.gov/cpg>. This form is not required for items requisitioned from established Federal supply sources.

1. The procurement originator lists which item(s) apply to the procurement request, the required recycled content, the actual recycled content, and signs and dates the appropriate Certification on the back of this form.
2. If an exemption is being claimed, the procurement originator's unit commander also signs the Certification on the back of this form.
3. The completed form becomes part of the contracting office contract file.

Procurement Request No. \_\_\_\_\_

The EPA-designated items being procured are:

- ☐ Building insulation
- ☐ Flowable fill
- ☐ Latex paint
- ☐ Floor tiles
- ☐ Laminated paperboard
- ☐ Structural fiberboard
- ☐ Polyester carpet
- ☐ Carpet Backing
- ☐ Carpet Cushion
- Cement & concrete containing:
  - ☐ Coal fly ash
  - ☐ Ground granulated blast furnace slag
- ☐ Binders  
(paper, solid plastic or plastic covered)
- ☐ Plastic presentation folders
- ☐ Plastic file folders
- ☐ Plastic clip portfolios
- ☐ Plastic clipboards
- ☐ Plastic envelopes
- ☐ Office recycling containers
- ☐ Office waste receptacles
- ☐ Plastic desktop accessories

- \_\_\_ Printing and writing papers
- \_\_\_ Printer ribbons
- \_\_\_ Toner cartridges
- \_\_\_ Awards and plaques
- \_\_\_ Playground surfaces
- \_\_\_ Park and recreational furniture
- \_\_\_ Running tracks
- \_\_\_ Playground equipment
- \_\_\_ Traffic barricades
- \_\_\_ Signage
- \_\_\_ Traffic cones
- \_\_\_ Channelizers
- \_\_\_ Delineators
- \_\_\_ Flexible delineators
- \_\_\_ Parking stops
- \_\_\_ Plastic fencing (snow or erosion control, safety barriers)
- \_\_\_ Engine coolants
- \_\_\_ Re-refined lubricating oils
- \_\_\_ Retread tires
- \_\_\_ Garden and soaker hoses
- \_\_\_ Lawn and garden edging
- \_\_\_ Patio blocks
- \_\_\_ Landscaping timbers and posts (plastic lumber)
- \_\_\_ Compost from yard trimmings or food waste
- \_\_\_ Commercial/industrial sanitary tissue products
- \_\_\_ Sorbents
- \_\_\_ Industrial Drums
- \_\_\_ Railroad grade crossings/surfaces
- \_\_\_ Pallets
- \_\_\_ Paperboard and packaging
- \_\_\_ Strapping and stretch wrap
- \_\_\_ Shower & restroom dividers/partitions
- \_\_\_ Plastic trash bags
- \_\_\_ Mats
- \_\_\_ Hydraulic mulch
- \_\_\_ Tray liners
- \_\_\_ Newsprint

CERTIFICATION

Procurement Request No. \_\_\_\_\_

Complete Part A or Part B as appropriate:

\*\*\*\*\*

A. I hereby certify the Statement of Work/Specifications for the requisition of all materials listed on this form complies with EPA standards for recycled/recovered materials content.

\_\_\_\_\_  
Procurement Originator's Signature

\_\_\_\_\_  
Date

\*\*\*\*\*

B. The following item does not comply with EPA standards for recycled/recovered materials *(please complete a separate justification for each noncompliant item purchased as part of this procurement action)*: \_\_\_\_\_

The exemption being claimed for this purchase is:

\_\_\_ The product does not meet appropriate performance standards

\_\_\_ The product is not available within a reasonable time frame

\_\_\_ The product is not available competitively (from two or more sources)

\_\_\_ The product is only available at an unreasonable price (it costs more than a comparable non-recycled-content product). The recycled-content product costs \$\_\_\_\_\_ per \_\_\_\_\_ and the non-recycled-content product costs \$\_\_\_\_\_ per \_\_\_\_\_

\_\_\_\_\_  
Procurement Originator

\_\_\_\_\_  
Date

\_\_\_\_\_  
Commander

\_\_\_\_\_  
Date

**INDEX OF DRAWINGS**

REPLACE CAPEHART FAMILY HOUSING, TITAN PHASE 3  
 MALMSTROM AFB, MONTANA  
 PN: NZAS 860017

DRAWING FILE NO. 225s/711-15-08

| SHEET<br>NUMBER | PLATE<br>NUMBER | TITLE                             | REVISION<br>NUMBER | DATE    |
|-----------------|-----------------|-----------------------------------|--------------------|---------|
| 1               | G-100           | Title Sheet                       |                    | 03MAY05 |
|                 |                 | CIVIL                             |                    |         |
| 2               | GT-100          | Exploration Logs                  |                    | 03MAY05 |
| 3               | GT-101          | Exploration Logs                  |                    | 03MAY05 |
| 4               | C-100           | Location of Explorations          |                    | 03MAY05 |
| 5               | C-101           | Exist. Cond./Demo. Plan           |                    | 03MAY05 |
| 6               | C-102           | Site Plan                         |                    | 03MAY05 |
| 7               | C-103           | Grading/Drainage Plan             |                    | 03MAY05 |
| 8               | C-104           | Utilities Plan                    |                    | 03MAY05 |
| 9               | C-105           | Combined Utilities Plan           |                    | 03MAY05 |
| 10              | C-301           | Storm Line Profiles               |                    | 03MAY05 |
| 11              | C-302           | Site Sections                     |                    | 03MAY05 |
| 12              | C-303           | Water Line Profiles               |                    | 03MAY05 |
| 13              | C-401           | Enlarged Site Plans, Bldg 3C      |                    | 03MAY05 |
| 14              | C-402           | Enlarged Site Plans, Bldg 4F & 4C |                    | 03MAY05 |
| 15              | C-501           | Civil Details                     |                    | 03MAY05 |
| 16              | C-502           | Civil Details                     |                    | 03MAY05 |
| 17              | C-503           | Civil Details                     |                    | 03MAY05 |
| 18              | C-504           | Civil Details                     |                    | 03MAY05 |
| 19              | C-505           | Civil Details                     |                    | 03MAY05 |
| 20              | C-506           | Civil Details                     |                    | 03MAY05 |
|                 |                 | LANDSCAPE                         |                    |         |
| 21              | L-101           | Irrigation Plan                   |                    | 03MAY05 |
| 22              | L-102           | Planting Plan                     | A                  | 03JUN09 |
| 23              | L-103           | Lawn Planting Plan                |                    | 03MAY05 |

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| 24              | L-401           | Enlarged Planting Plan                            |                    | 03MAY05 |
| 25              | L-501           | Landscape Details                                 |                    | 03MAY05 |
| 26              | L-502           | Landscape Details                                 |                    | 03MAY05 |
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| 27              | S-001           | General Structural Notes and Abbreviations        |                    | 03MAY05 |
| 28              | S-002           | General Structural Notes and Abbreviations        |                    | 03MAY05 |
| 29              | S-003           | Fastener Schedule                                 |                    | 03MAY05 |
| 30              | S-101           | Fdn/1st Floor Framing Plan, Unit 3C/3S            |                    | 03MAY05 |
| 31              | S-102           | 2nd Flr/Gable Roof Framing Plan, Unit 3C/3S       |                    | 03MAY05 |
| 32              | S-103           | Fdn/1st Floor Framing Plan, Unit 4F (4C Sim)      |                    | 03MAY05 |
| 33              | S-104           | 2nd Flr/Gable Roof Framing Plan, Unit 4F (4C Sim) |                    | 03MAY05 |
| 34              | S-105           | Shed Roof Framing Plans, Units 3C/3S, 4F (4C Sim) |                    | 03MAY05 |
| 35              | S-201           | Shear Wall Details                                |                    | 03MAY05 |
| 36              | S-501           | Details   |                    | 03MAY05 |
| 37              | S-502           | Details   |                    | 03MAY05 |
| 38              | S-503           | Details   |                    | 03MAY05 |
| 39              | S-504           | Details   |                    | 03MAY05 |
| 40              | S-505           | Details   |                    | 03MAY05 |
| 41              | S-506           | Details/Load Diagrams                             |                    | 03MAY05 |
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| 42              | A-001           | Architectural Legends, Symbols & General Notes    |                    | 03MAY05 |
| 43              | A-002           | Housing Site Plan, Titan                          |                    | 03MAY05 |
| 44              | AD-101          | Demolition Plans, Type A3                         |                    | 03MAY05 |
| 45              | AD-102          | Demolition Plans, Type B1                         |                    | 03MAY05 |
| 46              | AD-103          | Demolition Plans, Type B2                         |                    | 03MAY05 |
| 47              | AD-104          | Demolition Plans, Type B3                         |                    | 03MAY05 |
| 48              | A-101           | Floor Plans, Unit 3C/3S                           |                    | 03MAY05 |
| 49              | A-102           | Floor Plans, Unit 4C                              |                    | 03MAY05 |
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| 51              | A-104           | Roof Plans, Unit 3C/3S                                    |                    | 03MAY05 |
| 52              | A-105           | Roof Plans, Unit 4F (4C Sim)                              |                    | 03MAY05 |
| 53              | A-201           | Exterior Elevations, Unit 3C/3S, Gable Roof               |                    | 03MAY05 |
| 54              | A-202           | Exterior Elevations, Unit 3C/3S, Shed Roof                |                    | 03MAY05 |
| 55              | A-203           | Exterior Elevations, Unit 4F, Gable Roof (4C Sim)         |                    | 03MAY05 |
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| 57              | A-211           | Interior Elevations                                       |                    | 03MAY05 |
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| 59              | A-301           | Building Sections, Unit 3C/3S                             |                    | 03MAY05 |
| 60              | A-302           | Building Sections, Unit 4F (4C Sim)                       |                    | 03MAY05 |
| 61              | A-311           | Wall Sections   |                    | 03MAY05 |
| 62              | A-312           | Wall Sections   |                    | 03MAY05 |
| 63              | A-313           | Wall Sections   |                    | 03MAY05 |
| 64              | A-501           | Exterior Details  |                    | 03MAY05 |
| 65              | A-502           | Details   |                    | 03MAY05 |
| 66              | A-511           | Details   |                    | 03MAY05 |
| 67              | A-601           | Finish Schedules  |                    | 03MAY05 |
| 68              | A-602           | Schedules   |                    | 03MAY05 |
| 69              | A-701           | Stair Plans, Sections & Details, Unit 3C/3S (4C & 4F Sim) |                    | 03MAY05 |
| MECHANICAL      |                 |   |                    |         |
| 70              | M-001           | Mechanical Legend   |                    | 03MAY05 |
| 71              | M-101           | Floor Plans, HVAC, Unit 3C/3S                             |                    | 03MAY05 |
| 72              | M-102           | Floor Plans, HVAC, Unit 4C                                |                    | 03MAY05 |
| 73              | M-103           | Floor Plans, HVAC, Unit 4F                                |                    | 03MAY05 |
| 74              | M-201           | Floor Plans, Plumbing, Unit 3C/3S                         |                    | 03MAY05 |
| 75              | M-202           | Floor Plans, Plumbing, Unit 4C                            |                    | 03MAY05 |
| 76              | M-203           | Floor Plans, Plumbing, Unit 4F                            |                    | 03MAY05 |
| 77              | M-301           | HVAC Schedules, Details & Sequence of Operations          |                    | 03MAY05 |



| SHEET<br>NUMBER | PLATE<br>NUMBER | TITLE   | REVISION<br>NUMBER | DATE           |
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| 78              | M-401           | Plumbing Schedules, Details & Diagrams            |                    | 03MAY05        |
|                 |                 | ELECTRICAL  |                    |                |
| 79              | E-001           | Electrical Symbols, Abbreviations & General Notes |                    | 03MAY05        |
| 80              | E-002           | Demolition Site Plan                              |                    | 03MAY05        |
| 81              | E-003           | Electrical Site Plan                              | <u>A</u>           | 03JUN09        |
| 82              | E-101           | Electrical Floor Plans, Unit 3C/3S                |                    | 03MAY05        |
| 83              | E-102           | Electrical Floor Plans, Unit 4C                   |                    | 03MAY05        |
| <u>84</u>       | <u>E-103</u>    | <u>Electrical Floor Plans, Unit 4F</u>            |                    | <u>03MAY05</u> |
| <u>85</u>       | <u>E-201</u>    | <u>Schedules, One-Line Diagram and Detail</u>     |                    | <u>03MAY05</u> |
| <u>86</u>       | <u>E-202</u>    | <u>Electrical Load Calc</u>                       |                    | <u>03MAY05</u> |
| <u>87</u>       | <u>E-301</u>    | <u>Electrical Details</u>                         | <u>A</u>           | <u>03JUN09</u> |
| <u>88</u>       | <u>E-302</u>    | <u>Electrical Details</u>                         |                    | <u>03MAY05</u> |
| <u>89</u>       | <u>E-303</u>    | <u>Electrical One-Line Diagram</u>                | <u>A</u>           | <u>03JUN09</u> |

### DRAWING REVISIONS BY NOTATION

Drawing Sheet 181, Plate E-003, Flag Notes:

- (a) Flag Note 4: Change Bldg 14010 to Bldg 14012
- (b) Flag Note 5: Change Bldg 14010 to Bldg 14014
- (c) Flag Note 6: Change Bldg 14010 to Bldg 14016

Drawing Sheet 1, Plate G-100 (Title Sheet): Remove On Base Borrow Site from the Site Plan

### STANDARD DETAILS BOUND IN THE SPECIFICATIONS

| DRAWING<br>NUMBER   | SHEET<br>NUMBER | TITLE                                    | DATE    |
|---|-----------------|--|---------|
| <u>SECTION 01501 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS</u> |                 |  |         |
|   | 1 & 2           | U.S. Air Force Project Construction Sign | 84JUN20 |
|   | 1               | Hard Hat Sign                            | 10SEP90 |
| END OF SECTION  |                 |  |         |

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## SECTION 01270

### MEASUREMENT AND PAYMENT

#### PART 1 GENERAL

##### 1.1 GENERAL

The contract price for each item shall constitute full compensation for furnishing all plant, labor, materials, appurtenances, and incidentals and performing all operations necessary to construct and complete the items in accordance with these specifications and the applicable drawings, including surveying performed by the Contractor. Payment for each item shall be considered as full compensation, notwithstanding that minor features may not be mentioned herein. Work paid for under one item will not be paid for under any other item. No separate payment will be made for the work, services, or operations required by the Contractor, as specified in DIVISION 1, GENERAL REQUIREMENTS (except for Bid Items 0005, 0006 and 0007), to complete the project in accordance with these specifications; all costs thereof shall be considered as incidental to the work.

##### 1.2 (Not Used)

##### 1.3 PAYMENT

###### 1.3.1 ITEM NO. 0001 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0001, Demolish Buildings No.s 4009, 4010, 4011, 4012, 4013, 4014, 4015, 4016, 4028, 4029, 4030 and 4031 in the Titan Housing Area, payment of which shall constitute full compensation for Item No. 0001, complete. Work includes labor, professional services, equipment and transportation and other work as required.

###### 1.3.2 ITEM NO. 0002 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0002, All Work for Construction of Buildings Nos. 14009, 14011, 14013, 14015, 14028, 14029, 14030, and 14031 (16 Units) in the Titan Housing Area within a line 5 feet outside of the Building Exterior Walls, payment of which shall constitute full compensation for Item No. 0002, complete. This item also includes the unit vinyl fence trash enclosure, patio vinyl 'privacy fence', backfill and landscaping. Work includes all labor, professional services, materials, equipment and transportation and other work as required.

###### 1.3.3 ITEM NO. 0003 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0003, Provide Titan Housing Area Site Work and Utilities for Items No. 0002 and Utilities of Items 0012, 0013, 0014 and 0015 from a line 5 feet outside of the Building Exterior Walls, except for Items 0004 and 0016 through 0023, payment of which shall constitute full compensation for Item No. 0003, complete. This item includes, but is not limited to, the transformer and sectionalizer enclosures with fencing, pathway and light standards, concrete handicap aprons with curb cuts, painted crosswalks and signage and bollards at each end of the pathway, and backfilling the basements (including grading and seeding) of the houses being demolished (except for the buildings identified in 0008,

0009, 0010, and 0011). Work includes all labor, professional services, materials, equipment and transportation necessary for all work related to this item

#### 1.3.4 (Not Used)

#### 1.3.5 ITEM NO. 0005 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0005, All Work for As-Built Drawings as Specified in Section 01702 from Preparation to Final Approval for Base Items and any Optional Items Exercised, payment of which shall constitute full compensation for Item No. 0005, complete. No partial or total payment will be made for this item until the as-built drawings, both marked up blue prints and electronic files are fully approved by the Government (A or B action) and all copies of approved drawings and electronic media received by the Government.

#### 1.3.6 ITEM 0006 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0006, All Work for O&M Manuals, as Specified in Section 01701 from Preparation to Final Approval for Base Items and any Optional Items Exercised, payment of which shall constitute full compensation for Item No. 0006, complete. No partial or total payment will be made for this item until all O&M manuals are fully approved by the Government (A or B action) and all copies of final manuals are received by the Government in their final binders.

#### 1.3.7 ITEM 0007 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0007, All Work for Form 1354 Checklist and Equipment-in-Place List, as Specified in Section 01704 and 01705 from Preparation to Final Approval for Base Items and any Optional Items Exercised, payment of which shall constitute full compensation of Item No. 0007, complete. No partial or total payment will be made for this item until both the 1354 Checklist and Equipment in Place List are fully approved by the Government (A or B action) and all copies of approved lists received by the Government.

#### 1.3.8 ITEM 0008 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0008, Backfill (with satisfactory material), Compact, Finish and Fine Grade, Topsoil and Seeding (to cover excavation from demolition of Building No. 4016), as indicated on the drawings, payment of which shall constitute full compensation of Item No. 0008, complete. Work includes all labor, professional services, materials, equipment and transportation necessary for all work related to this item.

#### 1.3.9 ITEM 0009 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0009, Backfill (with satisfactory material), Compact, Finish and Fine Grade, Topsoil and Seeding (to cover excavation from demolition of Building No. 4015), as indicated on the drawings, payment of which shall constitute full compensation of Item No. 0009, complete. Work includes all labor, professional services, materials, equipment and transportation necessary for all work related to this item.

#### 1.3.10 ITEM 0010 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0010, Backfill (with satisfactory material), Compact, Finish and Fine Grade, Topsoil and Seeding (to cover excavation from demolition of Building No. 4013), as indicated on the drawings, payment of which shall constitute full compensation of Item No. 0010, complete. Work includes all labor, professional services, materials, equipment and transportation necessary for all work related to this item.

#### 1.3.11 ITEM 0011 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0011, Backfill (with satisfactory material), Compact, Finish and Fine Grade, Topsoil and Seeding (to cover excavation from demolition of Building No. 4012), as indicated on the drawings, payment of which shall constitute full compensation of Item No. 0011, complete. Work includes all labor, professional services, materials, equipment and transportation necessary for all work related to this item.

#### 1.3.12 ITEM 0012 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0012, All Work for Construction of Building 14010 (2 Units) in the Titan Housing Area within a line 5 feet outside of the Building Exterior Walls and Sitework to include Installation of Trees and Shrubs as shown on the Landscape Plans; Paving, Mowstrips, Driveways and Walks as indicated, and Duct Bank Work from the Building to the Transformer as shown on Electrical Drawing Plate E-003, payment of which shall constitute full compensation for Item No. 0012, complete. This item includes unit trash enclosure, patio 'privacy fence', backfill and landscaping. Work includes all labor, professional services, materials, equipment and transportation and all other work as required. If this item is exercised, Optional Item 0008 WILL NOT be exercised.

#### 1.3.13 ITEM 0013 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0013, All Work for Construction of Building 14012 (2 Units) in the Titan Housing Area within a line 5 feet outside of the Building Exterior Walls and Sitework to include Installation of Trees and Shrubs as shown on the Landscape Plans; Paving, Mowstrips, Driveways and Walks as indicated, and Duct Bank Work from the Building to the Transformer as shown on Electrical Drawing Plate E-003, payment of which shall constitute full compensation for Item No. 0013, complete. This item includes unit trash enclosure, patio 'privacy fence', backfill and landscaping. Work includes all labor, professional services, materials, equipment and transportation and all other work as required. If this item is exercised, Optional Item 0009 WILL NOT be exercised.

#### 1.3.14 ITEM 0014 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0014, All Work for Construction of Building 14014 (2 Units) in the Titan Housing Area within a line 5 feet outside of the Building Exterior Walls and Sitework to include Installation of Trees and Shrubs as shown on the Landscape Plans; Paving, Mowstrips, Driveways and Walks as indicated, and Duct Bank Work from the Building to the Transformer as shown on Electrical Drawing Plate E-003, payment of which shall constitute full compensation for Item No. 0014, complete. This item includes unit trash enclosure, patio 'privacy fence', backfill and landscaping. Work includes all labor, professional services, materials, equipment and transportation and all other work as

required. If this item is exercised, Optional Item 0010 WILL NOT be exercised.

#### 1.3.15 ITEM 0015 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0015, All Work for Construction of Building 14016 (2 Units) in the Titan Housing Area within a line 5 feet outside of the Building Exterior Walls and Sitework to include Installation of Trees and Shrubs as shown on the Landscape Plans; Paving, Mowstrips, Driveways and Walks as indicated, and Duct Bank Work from the Building to the Transformer as shown on Electrical Drawing Plate E-003, payment of which shall constitute full compensation for Item No. 0015, complete. This item includes unit trash enclosure, patio 'privacy fence', backfill and landscaping. Work includes all labor, professional services, materials, equipment and transportation and all other work as required. If this item is exercised, Optional Item 0011 WILL NOT be exercised.

#### 1.3.16 ITEM 0016 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0016, Install Fencing for the Titan Housing Area Buildings (16 Units) (constructed in Item 0002) as shown on the drawings, payment of which shall constitute full compensation for Item No. 0016, complete. Work includes all labor, professional services, materials, equipment and transportation and all other work as required. (Unit trash enclosure and patio 'privacy fence' are included in Item 0002.)

#### 1.3.17 ITEM 0017 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0017, Install Fencing for the Titan Housing Area Building (2 Units) (constructed in Item 0012) as shown on the drawings, payment of which shall constitute full compensation for Item No. 0017, complete. Work includes all labor, professional services, materials, equipment and transportation and all other work as required. (Unit trash enclosure and patio 'privacy fence' are included in Item 0012.)

#### 1.3.18 ITEM 0018 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0018, Install Fencing for the Titan Housing Area Building (2 Units) (constructed in Item 0013) as shown on the drawings, payment of which shall constitute full compensation for Item No. 0018, complete. Work includes all labor, professional services, materials, equipment and transportation and all other work as required. (Unit trash enclosure and patio 'privacy fence' are included in Item 0013.)

#### 1.3.19 ITEM 0019 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0019, Install Fencing for the Titan Housing Area Building (2 Units) (constructed in Item 0014) as shown on the drawings, payment of which shall constitute full compensation for Item No. 0019, complete. Work includes all labor, professional services, materials, equipment and transportation and all other work as required. (Unit trash enclosure and patio 'privacy fence' are included in Item 0014.)

#### 1.3.20 ITEM 0020 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0020, Install Fencing for the Titan Housing Area Building (2 Units) (constructed in Item 0015) as Shown on the Drawings, payment of which shall constitute full compensation for Item No. 0020, complete. Work includes all labor, professional services, materials, equipment and transportation and all other work as

required. (Unit trash enclosure and patio 'privacy fence' are included in Item 0015.)

#### 1.3.21 ITEM 0021 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0021, Install Underground Sprinkler System in Common Areas for Item 0003 as shown on the Landscape Plans, payment of which shall constitute full compensation for Item No. 0021, complete. Work includes all labor, professional services, materials, equipment and transportation and all other work as required.

#### 1.3.22 ITEM 0022 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0022, Install Trees in the Common Areas for Item 0003, payment of which shall constitute full compensation for Item No. 0022, complete. Work includes all labor, professional services, materials, equipment and transportation necessary for all work related to this item.

#### 1.3.23 ITEM 0023 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0023, Additional Cost to Place 2" Asphalt on Pathway in lieu of 2" Aggregate Surface Course (placed under Item 0003), payment of which shall constitute full compensation for Item No. 0023, complete.

#### 1.3.24 ITEM 0024 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0024, Additional Cost to Provide Solid Surface Nonporous Countertops in lieu of Laminated Plastic Countertops and Splash in the Kitchens of the Buildings (16 Units) constructed under Item 0002, payment of which shall constitute full compensation for Item 0024, complete. Work includes all labor, professional services, materials, equipment and transportation and all other work as required.

#### 1.3.25 ITEM 0025 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0025, Additional Cost to Provide Solid Surface Nonporous Countertops in lieu of Laminated Plastic Countertops and Splash at Cooktops in the Kitchens of the Building (2 Units) constructed under Item 0012, payment of which shall constitute full compensation for Item 0025, complete. Work includes all labor, professional services, materials, equipment and transportation and all other work as required.

#### 1.3.26 ITEM 0026 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0026, Additional Cost to Provide Solid Surface Nonporous Countertops in lieu of Laminated Plastic Countertops and Splash at Cooktop in the Kitchens of the Buildings (2 Units) constructed under Item 0013, payment of which shall constitute full compensation for Item 0026, complete. Work includes all labor, professional services, materials, equipment and transportation and all other work as required.

#### 1.3.27 ITEM 0027 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0027, Additional Cost to Provide Solid Surface Nonporous Countertops in lieu of Laminated Plastic Countertops and Splash at Cooktops in the Kitchens of the Building (2 Units) constructed under Item 0014,

payment of which shall constitute full compensation for Item 0027, complete. Work includes all labor, professional services, materials, equipment and transportation and all other work as required.

#### 1.3.28 ITEM 0028 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0028, Additional Cost to Provide Solid Surface Nonporous Countertops in lieu of Laminated Plastic Countertops and Splash at Cooktops in the Kitchens of the Building (2 Units) constructed under Item 0015, payment of which shall constitute full compensation for Item 0028, complete. Work includes all labor, professional services, materials, equipment and transportation and all other work as required.

#### 1.4 PROGRESS PAYMENT INVOICE

Requests for payment shall be submitted in accordance with Federal Acquisition Regulations (FAR) Subpart 32.9, entitled "PROMPT PAYMENT", and Paragraphs 52.232-5 and 52.232-27, entitled "Payments Under Fixed-Price Construction Contracts", and "Prompt Payment for Construction Contracts", respectively. In addition each request shall be submitted in the number of copies and to the designated billing office as shown in the Contract.

1.4.1 When submitting payment requests, the Contractor shall complete Blocks 1 through 12 of the "PROGRESS PAYMENT INVOICE" Form as directed by the Contracting Officer. (A sample form is attached at the end of this Technical Specification Section.) The completed form shall then become the cover document to which all other support data shall be attached.

1.4.2 One additional copy of the entire request for payment, to include the "PROGRESS PAYMENT INVOICE" cover document, shall be forwarded to a separate address as designated by the Contracting Officer.

PARTS 2 and 3 NOT USED



**PROGRESS PAYMENT INVOICE**

See Federal Acquisition Regulations (FAR) 32.900, 52.232-5, &amp; 52.232-27

|   |  |  |  |
|---|--|--|--|
| 1. PROJECT AND LOCATION   |  | 2. DATE  |  |
| 3. CONTRACTOR NAME AND ADDRESS<br>(Must be the same as in the Contract)   |  | 4. CONTRACT NO.<br>_____   |  |
|   |  | 5. INVOICE NO.<br>_____  |  |
| 6. DESCRIPTION OF WORK  |  | 7. PERIOD OF PERFORMANCE<br><br>From:<br><br>To:   |  |
| 8. DISCOUNT TERMS   |  |  |  |
| 9. OFFICIAL TO WHOM PAYMENT<br>IS TO BE FORWARDED<br>Name:<br>Title:<br>Phone: ( ) -  |  | 10. OFFICIAL TO BE NOTIFIED<br>OF DEFECTIVE INVOICE<br>Name:<br>Title:<br>Phone ( ) -  |  |
| <p><b>11. CERTIFICATION: I hereby certify, to the best of my knowledge and belief, that</b></p> <p><b>(1) The amounts requested are only for the performance in accordance with the specifications, terms, and conditions of this contract;</b></p> <p><b>(2) Payments to subcontractors and suppliers have been made from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification,</b></p> <p><b>in accordance with subcontract agreements and the requirements of Chapter 39 of Title 31, United States Code;</b></p> <p><b>and</b></p> <p><b>(3) This request for progress payment does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract.</b></p> |  |  |  |
| _____<br>(Signature)  |  | _____<br>(Title)   |  |
|   |  | _____<br>(Date)  |  |
| 12. OTHER INFORMATION OR DOCUMENTATION<br>required by Contract. Provide two (2) copies of each<br>(check and attach if applicable):   |  | (FOR GOVERNMENT USE ONLY)  |  |
| <input type="checkbox"/> Updated Progress Chart/Schedule<br><input type="checkbox"/> Progress Narrative<br><input type="checkbox"/> Certified Payrolls (submitted weekly)<br><input type="checkbox"/> Safety Exposure Report<br><input type="checkbox"/> Updated Submittal Register<br><input type="checkbox"/> Progress Photos<br><input type="checkbox"/> Subcontractor/Employee Listings   |  | Retainage: _____% Amt.:<br>\$ _____<br><br>Withholdings: \$ _____<br><br>Reason:<br>_____<br>_____<br>_____<br><br>Following items are current:<br>As-Builts _____ Yes _____ No<br>O & M Manuals _____ Yes _____ No<br>1354 Data _____ Yes _____ No<br>Submittal Register _____ Yes _____ No |  |

END OF SECTION

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## SECTION 02300 - EARTHWORK

### PART 1 GENERAL

#### 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

#### AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

|              |  |
|--------------|--|
| AASHTO T 180 | (1997) Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and an 457 mm (18-in) Drop |
| AASHTO T 224 | (1996) Correction for Coarse Particles in the Soil Compaction Test                                   |

#### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

|             |  |
|-------------|--|
| ASTM C 136  | (1996a) Sieve Analysis of Fine and Coarse Aggregates   |
| ASTM D 422  | (1963; R 1998) Particle-Size Analysis of Soils   |
| ASTM D 1140 | (1997) Amount of Material in Soils Finer than the No. 200 (75-micrometer) Sieve  |
| ASTM D 1556 | (1990; R 1996el) Density and Unit Weight of Soil in Place by the Sand-Cone Method  |
| ASTM D 1557 | (1991; R 1998) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu. ft. (2,700 kN-m/cu. m.)) |
| ASTM D 2487 | (1998) Classification of Soils for Engineering Purposes (Unified Soil Classification System)                                   |
| ASTM D 4318 | (1998) Liquid Limit, Plastic Limit, and Plasticity Index of Soils  |

#### 1.2 DEFINITIONS

##### 1.2.1 Satisfactory Materials

Satisfactory materials shall comprise any materials classified by ASTM D 2487 as GW, GP, GC, GP-GC, GM-GC, SW, SP & CL. Materials classified as SM, GM, GP-GM & GW-GM are satisfactory provided they contain water contents suitable for their intended use. Satisfactory materials for grading shall be comprised of stones less than 8 inches, except for fill material for pavements which shall be comprised of stones less than 3 inches in any dimension.

### 1.2.2 Unsatisfactory Materials

Materials which do not comply with the requirements for satisfactory materials are unsatisfactory. Unsatisfactory materials also include man-made fills; trash; refuse; backfills from previous construction; and material classified as satisfactory which contains root and other organic matter or frozen material. The Contracting Officer shall be notified of any contaminated materials.

### 1.2.3 Cohesionless and Cohesive Materials

Cohesionless materials include materials classified in ASTM D 2487 as GW, GP, SW, and SP. Cohesive materials include materials classified as GC, SC, ML, CL, MH, and CH. Materials classified as GM GP-GM, GW-GM, SW-SM, SP-SM and SM shall be identified as cohesionless only when the fines are nonplastic. Testing required for classifying materials shall be in accordance with ASTM D 4318, ASTM C 136, ASTM D 422, and ASTM D 1140.

### 1.2.4 Degree of Compaction

Degree of compaction required, except as noted in the second sentence, is expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D 1557 abbreviated as a percent of laboratory maximum density. Since ASTM D 1557 applies only to soils that have 30 percent or less by weight of their particles retained on the 3/4 inch sieve, the degree of compaction for material having more than 30 percent by weight of their particles retained on the 3/4 inch sieve shall be expressed as a percentage of the maximum density in accordance with AASHTO T 180 Method D and corrected with AASHTO T 224. To maintain the same percentage of coarse material, the "remove and replace" procedure as described in the NOTE 8 in Paragraph 7.2 of AASHTO T 180 shall be used.

### 1.2.5 Competent Native Clay Materials

Native clay materials suitable for sub-grade and/or backfill shall be competent CL materials with moisture content at the time of compaction ranging from 1 percent below to 4 percent above optimum moisture content.

## 1.3 SUBMITTALS

### SD-03 Product Data

#### Compaction Test Plan; G

Contractor is required to submit for approval a compaction testing plan. This submittal is required prior to the start of field activities. The lift and approximate location of each anticipated test should be depicted on the testing plan. The compaction testing results should be keyed to the plan and submitted to the government prior to the final inspection and BOD.

## 1.4 SUBSURFACE DATA

Subsurface soil boring logs are shown in the drawings. These data represent the best subsurface information available; however, variations may exist in the subsurface between boring locations.

## 1.5 CLASSIFICATION OF EXCAVATION

No consideration will be given to the nature of the materials, and all excavation will be designated as unclassified excavation.

## 1.6 BLASTING

Blasting will not be permitted.

## 1.7 UTILIZATION OF EXCAVATED MATERIALS

Unsatisfactory materials removed from excavations shall be disposed of in designated waste disposal or spoil areas. Satisfactory material removed from excavations shall be used, insofar as practicable, in the construction of fills, embankments, subgrades, shoulders, bedding (as backfill), and for similar purposes. No satisfactory excavated material shall be wasted without specific written authorization. Satisfactory material authorized to be wasted shall be disposed of in designated areas approved for surplus material storage or designated waste areas as directed. Newly designated waste areas on Government-controlled land shall be cleared and grubbed before disposal of waste material thereon. Coarse rock from excavations shall be stockpiled and used for constructing slopes or embankments adjacent to streams, or sides and bottoms of channels and for protecting against erosion. No excavated material shall be disposed of to obstruct the flow of any stream, endanger a partly finished structure, impair the efficiency or appearance of any structure, or be detrimental to the completed work in any way.

## PART 2 PRODUCTS (NOT APPLICABLE)

## PART 3 EXECUTION

### 3.1 GENERAL EXCAVATION

The Contractor shall perform excavation of every type of material encountered within the limits of the project to the lines, grades, and elevations indicated and as specified. Grading shall be in conformity with the typical sections shown and the tolerances specified in paragraph FINISHING. Satisfactory excavated materials shall be transported to and placed in fill or embankment within the limits of the work. Unsatisfactory materials encountered within the limits of the work shall be excavated below grade and replaced with satisfactory materials as directed. Such excavated material and the satisfactory material ordered as replacement shall be included in excavation. Surplus satisfactory excavated material not required for fill or embankment shall be disposed of in areas approved for surplus material storage or designated waste areas. Unsatisfactory excavated material shall be disposed of in designated waste or spoil areas. During construction, excavation and fill shall be performed in a manner and sequence that will provide proper drainage at all times. Material required for fill or embankment in excess of that produced by excavation within the grading limits shall be excavated from other approved areas selected by the Contractor as specified.

#### 3.1.1 Ditches, Gutters, and Channel Changes

Excavation of ditches, gutters, and channel changes shall be accomplished by cutting accurately to the cross sections, grades, and elevations shown. Ditches and gutters shall not be excavated below grades shown. Excessive open ditch or gutter excavation shall be backfilled with satisfactory, thoroughly compacted, material or with suitable stone or cobble to grades shown. Material excavated shall be disposed of as shown or as directed, except that in no case shall material be deposited less than 4 feet

from the edge of a ditch. The Contractor shall maintain excavations free from detrimental quantities of leaves, brush, sticks, trash, and other debris until final acceptance of the work.

### 3.1.2 Drainage Structures

Excavations shall be made to the lines, grades, and elevations shown, or as directed. Trenches and foundation pits shall be of sufficient size to permit the placement and removal of forms for the full length and width of structure footings and foundations as shown. Rock or other hard foundation material shall be cleaned of loose debris and cut to a firm, level, stepped, or serrated surface. Loose disintegrated rock and thin strata shall be removed. When concrete or masonry is to be placed in an excavated area, the bottom of the excavation shall not be disturbed. Excavation to the final grade level shall not be made until just before the concrete or masonry is to be placed. Where pile foundations are to be used, the excavation of each pit shall be stopped at an elevation 1 foot above the base of the footing, as specified, before piles are driven. After the pile driving has been completed, loose and displaced material shall be removed and excavation completed, leaving a smooth, solid, undisturbed surface to receive the concrete or masonry.

### 3.2 OPENING AND DRAINAGE OF EXCAVATION

The Contractor shall notify the Contracting Officer sufficiently in advance of the opening of any excavation or borrow pit to permit elevations and measurements of the undisturbed ground surface to be taken. Except as otherwise permitted, excavation areas shall be excavated providing adequate drainage. Overburden and other spoil material shall be transported to designated spoil areas or otherwise disposed of as directed. The Contractor shall ensure that excavation of any area, or dumping of spoil material results in minimum detrimental effects on natural environmental conditions.

### 3.3 ~~(NOT USED) SELECTION OF BORROW MATERIAL~~

~~Borrow material shall be selected to meet the requirements and conditions of the particular fill or embankment for which it is to be used. Borrow material shall be obtained from the borrow areas shown on drawings. Unless otherwise provided in the contract, the Contractor shall obtain from the owners the right to procure material, pay royalties and other charges involved and bear the expense of developing the sources, including rights of way for hauling. Borrow material from approved sources on Government-controlled land may be obtained without payment of royalties. Unless specifically provided, no borrow shall be obtained within the limits of the project site without prior written approval. The surface material available at the borrow site has been previously cleaned of rubble, but the contractor may encounter some concrete or asphalt rubble which will need to be separated from the fill material prior to loading and hauling.~~

### 3.4 GRADING AREAS

Where indicated, work will be divided into grading areas within which satisfactory excavated material shall be placed in embankments, fills, and required backfills. The Contractor shall not haul satisfactory material excavated in one grading area to another grading area except when so directed in writing.

### 3.5 BACKFILL

Backfill adjacent to any and all types of structures shall be placed and compacted to at least 90 percent laboratory maximum density for cohesive materials or 95 percent laboratory maximum density for cohesionless materials to prevent wedging action or eccentric loading upon or against the structure. Ground surface on which backfill is to be placed shall be prepared as specified in paragraph

PREPARATION OF GROUND SURFACE FOR EMBANKMENTS. Compaction requirements for backfill materials shall also conform to the applicable portions of paragraphs PREPARATION OF GROUND SURFACE FOR EMBANKMENTS, EMBANKMENTS, and SUBGRADE PREPARATION, and Section 02630a STORM-DRAINAGE SYSTEM; and Section 02316a EXCAVATION, TRENCHING, AND BACKFILLING FOR UTILITIES SYSTEMS. Compaction shall be accomplished by sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, vibratory compactors, or other approved equipment.

### 3.6 PREPARATION OF GROUND SURFACE FOR EMBANKMENTS

#### 3.6.1 General Requirements

Ground surface on which fill is to be placed shall be stripped of live, dead, or decayed vegetation, rubbish, debris, and other unsatisfactory material; plowed, disked, or otherwise broken up to a depth of; pulverized; moistened or aerated as necessary; thoroughly mixed; and compacted to at least 90 percent laboratory maximum density for cohesive materials or 95 percent laboratory maximum density for cohesionless materials. Compaction shall be accomplished by sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, vibratory compactors, or other approved equipment. The prepared ground surface shall be scarified and moistened or aerated as required just prior to placement of embankment materials to assure adequate bond between embankment material and the prepared ground surface.

#### 3.6.2 Frozen Material

Embankment shall not be placed on a foundation which contains frozen material, or which has been subjected to freeze-thaw action. This prohibition encompasses all foundation types, including the natural ground, all prepared subgrades (whether in an excavation or on an embankment) and all layers of previously placed and compacted earth fill which become the foundations for successive layers of earth fill. All material that freezes or has been subjected to freeze-thaw action during the construction work, or during periods of temporary shutdowns, such as, but not limited to, nights, holidays, weekends, winter shutdowns, or earthwork operations, shall be removed to a depth that is acceptable to the Contracting Officer and replaced with new material. Alternatively, the material will be thawed, dried, reworked, and recompact to the specified criteria before additional material is placed. The Contracting Officer will determine when placement of fill shall cease due to cold weather. The Contracting Officer may elect to use average daily air temperatures, and/or physical observation of the soils for his determination. Embankment material shall not contain frozen clumps of soil, snow, or ice.

### 3.7 EMBANKMENTS

#### 3.7.1 Earth Embankments

Earth embankments shall be constructed from satisfactory materials free of organic or frozen material and rocks with any dimension greater than 3 inches. The material shall be placed in successive horizontal layers of loose material not more than 8 inches in depth. Each layer shall be spread uniformly on a soil surface that has been moistened or aerated as necessary, and scarified or otherwise broken up so that the fill will bond with the surface on which it is placed. After spreading, each layer shall be plowed, disked, or otherwise broken up; moistened or aerated as necessary; thoroughly mixed; and compacted to at least 90 percent laboratory maximum density for cohesive materials or 95 percent laboratory maximum density for cohesionless materials. Compaction requirements for the upper portion of earth embankments forming subgrade for pavements shall be identical with those requirements specified in paragraph SUBGRADE PREPARATION. Compaction shall be

accomplished by sheepsfoot rollers, pneumatic -tired rollers, steel-wheeled rollers, vibratory compactors, or other approved equipment.

### 3.8 SUBGRADE PREPARATION

#### 3.8.1 Construction

Subgrade shall be shaped to line, grade, and cross section, and compacted as specified. This operation shall include plowing, disking, and any moistening or aerating required to obtain specified compaction. Soft or otherwise unsatisfactory material shall be removed and replaced with satisfactory excavated material or other approved material as directed. Rock encountered in the cut section shall be excavated to a depth of 6 inches below finished grade for the subgrade. Low areas resulting from removal of unsatisfactory material or excavation of rock shall be brought up to required grade with satisfactory materials, and the entire subgrade shall be shaped to line, grade, and cross section and compacted as specified. The elevation of the finish subgrade shall not vary more than 0.05 foot from the established grade and cross section.

#### 3.8.2 Compaction

Compaction shall be accomplished by sheepsfoot rollers, pneumatic -tired rollers, steel-wheeled rollers, vibratory compactors, or other approved equipment. Except for paved areas, each layer of the embankment shall be compacted to at least 90 percent of laboratory maximum density.

##### 3.8.2.1 Subgrade for Pavements

Expansive cohesive fill materials should be compacted to a minimum of 90 percent and a maximum of 95 percent of the maximum density, and with a moisture content of 3 to 6 percent wet of optimum, as determined by ASTM D 1557.

### 3.9 FINISHING

The surface of excavations, embankments, and subgrades shall be finished to a smooth and compact surface in accordance with the lines, grades, and cross sections or elevations shown. The degree of finish for graded areas shall be within 0.1 foot of the grades and elevations indicated except that the degree of finish for subgrades shall be specified in paragraph SUBGRADE PREPARATION. Gutters and ditches shall be finished in a manner that will result in effective drainage. The surface of areas to be turfed shall be finished to a smoothness suitable for the application of turfing materials.

### 3.10 TESTING

Testing shall be performed by an approved commercial testing laboratory. Field in-place density shall be determined in accordance with ASTM D 1556. When test results indicate, as determined by the Contracting Officer, that compaction is not as specified, the material shall be removed, replaced and recompact to meet specification requirements. Tests on recompact areas shall be performed to determine conformance with specification requirements. Inspections and test results shall be certified by a registered professional civil engineer. These certifications shall state that the tests and observations were performed by or under the direct supervision of the engineer and that the results are representative of the materials or conditions being certified by the tests. The following number of tests, if performed at the appropriate time, will be the minimum acceptable for each type operation.



### 3.10.1 Fill and Backfill Material Gradation

One test per 500 cubic yards stockpiled or in-place source material. Gradation of fill and backfill material shall be determined in accordance with ASTM C 136.

### 3.10.2 In-Place Densities

- a. One test per 930 square feet, or fraction thereof, of each lift of fill or backfill areas compacted by other than hand-operated machines.
- b. One test per 233 square feet, or fraction thereof, of each lift of fill or backfill areas compacted by hand-operated machines.

### 3.10.3 Moisture Contents

In the stockpile, excavation, or borrow areas, a minimum of two tests per day per type of material or source of material being placed during stable weather conditions shall be performed. During unstable weather, tests shall be made as dictated by local conditions and approved by the Contracting Officer.

### 3.10.4 Optimum Moisture and Laboratory Maximum Density

Tests shall be made for each type material or source of material to determine the optimum moisture and laboratory maximum density values. One representative test per 75 cubic yards of fill and backfill, or when any change in material occurs which may affect the optimum moisture content or laboratory maximum density.

### 3.10.5 Tolerance Tests for Subgrades

Continuous checks on the degree of finish specified in paragraph SUBGRADE PREPARATION shall be made during construction of the subgrades.

## 3.11 SUBGRADE AND EMBANKMENT PROTECTION

During construction, embankments and excavations shall be kept shaped and drained. Ditches and drains along subgrade shall be maintained to drain effectively at all times. The finished subgrade shall not be disturbed by traffic or other operation and shall be protected and maintained by the Contractor in a satisfactory condition until ballast, subbase, base, or pavement is placed. The storage or stockpiling of materials on the finished subgrade will not be permitted. No subbase, base course, ballast, or pavement shall be laid until the subgrade has been checked and approved, and in no case shall subbase, base, surfacing, pavement, or ballast be placed on a muddy, spongy, or frozen subgrade.

END OF SECTION 02300

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## SECTION 16271 - PAD-MOUNTED TRANSFORMERS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes liquid-filled pad-mounted distribution transformers.

#### 1.2 REFERENCES

- A. ANSI C37.47 - Specifications for Distribution Fuse Disconnecting Switches, Fuse Supports, and Current-Limiting Fuses.
- B. ANSI C57.12.26 - Pad-Mounted Compartmental-Type, Self-Cooled, Three-Phase Distribution Transformers for Use with Separable Insulated High-Voltage Connectors, High Voltage 34 500 Grd Y/19 920 Volts and Below; 2500 kVA and Smaller.
- C. ANSI C57.12.28 - Switchgear and Transformers--Pad-Mounted Equipment--Enclosure Integrity.
- D. IEEE C57.12.00 (Institute of Electrical and Electronics Engineers) - General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers.
- E. IEEE C57.12.90 (Institute of Electrical and Electronics Engineers) - Test Code for Liquid-Immersed Distribution Power, and Regulating Transformers and Guide for Short-Circuit Testing of Distribution and Power Transformers.
- F. IEEE C57.13 (Institute of Electrical and Electronics Engineers) - Requirements for Instrument Transformers.
- G. IEEE C57.106 (Institute of Electrical and Electronics Engineers) - Guide for Acceptance and Maintenance of Insulating Oil in Equipment.
- H. IEEE 386 (Institute of Electrical and Electronics Engineers) - Separable Insulated Connector Systems for Power Distribution Systems Above 600 V.
- I. NEMA 260 (National Electrical Manufacturers Association) - Safety Labels for Padmounted Switchgear and Transformers Sited in Public Areas.
- J. NETA ATS (International Electrical Testing Association) - Acceptance Testing Specifications for Electrical Power Distribution Equipment.

#### 1.3 SUBMITTALS

- A. Section 01330 - Submittal Procedures: Submittal procedures.

- B. Shop Drawings: Indicate electrical characteristics and connection requirements, outline dimensions, connection and support points, weight, specified ratings and materials.
- C. Product Data: Submit electrical characteristics and connection requirements, standard model design tests, and options.
- D. Test Reports: Indicate procedures and results for specified factory and field testing and inspection.
- E. Manufacturer's Field Reports: Indicate activities on site, adverse findings, and recommendations.

#### 1.4 CLOSEOUT SUBMITTALS

- A. Section 01702 –As Built Record and Drawings:
- B. Project Record Documents: Include copy of manufacturer's certified drawings.
- C. Operation and Maintenance Data: Submit maintenance procedures for sampling and maintaining fluid.

#### 1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum five years experience.
- B. Testing Agency: Company member of International Electrical Testing Association and specializing in testing products specified in this section with minimum three years experience.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Section 01501 – Construction Facilities and Temporary Controls: Product storage and handling, storing, and protecting products.

#### 1.7 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

#### 1.8 MAINTENANCE MATERIALS

- A. Furnish two each of special tools required to operate and maintain transformer.

#### 1.9 EXTRA MATERIALS

- A. Furnish two sets of each size and type fuse.

### PART 2 - PRODUCTS

#### 2.1 LIQUID-FILLED TRANSFORMERS

- A. Product Description: ANSI C57.12.26, single phase, pad mounted, residential application, dead front construction, self-cooled transformer unit.
- B. Cooling and Temperature Rise; IEEE C57.12.00; Class OA. 65 degrees C, self-cooled.
- C. Insulating Liquid: Oil conforming to IEEE C57.106.

## 2.2 SERVICE CONDITIONS

- A. Meet requirements for usual service conditions described in IEEE C57.12.00

## 2.3 RATINGS

- A. Capacity: As shown on drawings.
- B. Primary Voltage: 7.2 kV Line-Neutral connected.
- C. Taps: Standard primary taps.
- D. Secondary Voltage: 240/120 volts, single phase.
- E. Impedance: 1.8 percent minimum.
- F. Basic Impulse Level: 95 kV.

## 2.4 ACCESSORIES

- A. Accessories: IEEE C57.12.00, standard accessories and the following:
  - 1. Oil drain.
  - 2. Filler and level plugs with automatic pressure relief device.
- B. Tap Changer: Externally-operated type.
- C. Primary Terminations: Bushing wells conforming to IEEE 386; furnish two for loop feed. Include bushings for insulated loadbreak connectors.
- D. Primary Overcurrent Protection: Canister-type current-limiting fuses to conforming to ANSI C37.47, sized at 150% of full load current.
- E. Secondary Terminations: Spade lugs.
- F. Other Accessories: Primary lightning arrestors.

## 2.5 FABRICATION

- A. Conform to requirements of ANSI C57.12.28.

## 2.6 FACTORY FINISHING

- A. Clean surfaces before applying paint.
- B. Apply corrosion-resisting primer to surfaces.
- C. Apply finish coat of baked enamel stencil to 4 mils thick.
- D. Finish Color: ~~Dark brown, Federal Spec #37056.~~ Painted Antique Linen.

## 2.7 SOURCE QUALITY CONTROL (AND TESTS)

- A. Provide factory tests conforming to IEEE C57.12.90. Include routine tests as defined in IEEE C57.12.00 and the following other tests:
  - 1. Impedance voltage and load loss.
  - 2. Dielectric tests.
  - 3. Audible sound level.
  - 4. Short circuit capability.
  - 5. Telephone influence factor (TIF).
- B. Test insulating liquid samples in accordance with IEEE C57.106.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify pads and supports are suitable for installation.

### 3.2 INSTALLATION

- A. Install plumb and level on concrete pad.
- B. Install safety labels in accordance with NEMA 260.
- C. Install engraved plastic nameplates in accordance with Section 16050.
- D. Ground and bond transformer in accordance with Section 16050. Test grounding by three point fall-of-potential method.

### 3.3 FIELD QUALITY CONTROL

- A. Section 01451 – Contractor Quality Control: Testing and inspection services.
- B. Inspect and test in accordance with NETA ATS, except Section 4.
- C. Perform inspections and tests listed in NETA ATS, Section 7.2. Include the following optional tests:
  - 1. Power factor or dissipation-factor tests.
  - 2. Winding-resistance tests for each winding at final tap setting.
  - 3. Individual excitation current tests on each phase.

4. Insulating liquid specific gravity, power factor, water content, dissolved gas, and total combustible gas.
5. Operational test and adjustments on fan and pump controls and alarm functions.
6. Percent oxygen test on nitrogen gas blanket.

#### 3.4 ADJUSTING

- A. Adjust primary taps so secondary voltage is within 2 percent of rated voltage.

END OF SECTION 16271

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